

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter 3 gives the explanation and description of research method related to the research. It contains research design, population and sample, treatments of which treatments are divided into the experimental and control groups, data collection, research instrument, procedure of data collection, and data analysis.

#### **3.1 Research Design**

This research uses quantitative design because of the data is in the form of numerical and statistical analysis. It includes on the experimental research. Ary, et.al (2010) explain that experimental research presents the effects of one variable to another by systematic manipulation in research, the experimental treatment or independent variable also called by manipulated variable while dependent variable also named by the measured, investigated, and observed variable.

Several forms of experimental designs that can be used by the researcher are pre-experimental design, true experimental design, factorial design, and quasi-experimental design (Sugiyono, 2010). The classification of experimental design types is based on control is in variable that can influence the research process.

Ary, et.al (2010) explain the quasi-experimental design is an experimental design uses randomly system involves manipulation in an independent variable, but it has not random subject is tested to treatment group. This research applies

quasi-experimental design in quantitative method because the control group is difficult to determine and class group has already been arranged in other way the researcher can not rearrange the class condition.

The researcher needs two classes or groups in this experimental research. The first class is named experimental group and second class is named control group. In this context research, the researcher teaches in experimental group by using *Study In USA* magazine as vocabulary learning source. The control group is taught by the researcher without *Study In USA* magazine. Experimental group is given treatments after pre-test by the researcher. The researcher gives post-test to both of groups as the student's vocabulary mastery evaluation in the last parts of this research.

The Research Design Table of Nonrandomized Control Group and Pretest-

Posttest Design is cited from Ary, et.al (2010) is illustrated as below:

Table 3.1 Quasi-experimental table.

Group	Pretest	Independent Variable	Posttest
E	Y1	X	Y2
C	Y1	-	Y2

Information:

E : The experimental group or class

C : The control group or class (using the lesson material by the teacher)

X : Treatment by using Technique Meaning Vocabulary to the experimental group

Y1 : Pre-test for experimental and control group or class

Y2 : Post-test for experimental and control group or class

The experimental research has two variables in a research; those are independent variable and dependent variable. The *Study in USA* magazine is used by the researcher as independent variable and the dependent variable is the student's vocabulary mastery. The promote of student's vocabulary mastery was monitored by their evaluation score in post-test after the treatment. Accordingly, the present research is purposed to know whether or not the *Study in USA* magazine affords promoting student's vocabulary mastery of the 11<sup>th</sup> grades in MAN 1 Kota Malang.

### **3.2 Population and Sample**

Sugiyono (2010) states that subject and object were inscribed in the generalization region that have special characteristics and qualities, both of them were set by researchers to study, investigate and make a conclusion. Then, the population is all of a subject generally in the research. In this research, the population is students of the 11<sup>th</sup> grade at MAN 1 Kota Malang.

The sampling technique is used by the researcher in this research is purposive sampling because the researcher takes a sample through a certain consideration; the teacher understands the characteristics of students well and deeply. Sugiyono (2010) explains purposive sampling is one of non probability

sampling technique in that sample elements which is determined by a consideration with the characteristic as the representative of the population. Then, the teacher gives recommendation to the researcher for choosing two classes. The first class is XI MIPA 5 consists of 37 students as experiment group and XI IPS 1 consists of 38 students. Consequently, the total of students are 75 people as the sample in this experiment or research.

### **3.3 Treatment**

The researcher gives treatment in the experimental group, and the vocabulary from the another online source is given by the researcher to control group.

#### **3.3.1 Treatment of the Experimental Group**

The treatment of the research for the experimental group (XI MIPA 5 class) is given for meeting in the class through the procedure of treatment:

1. The researcher introduces and explains a new material about vocabulary.
2. The researcher gives pre-test to the students.
3. The researcher gives an instruction, describes, and explains vocabulary material through the *Study in USA* with 50 words are chosen.
4. The researcher explains and teaches the meaning of vocabulary about 50 words. Next, the students are asked to understand the meaning of 50 words through *Study in USA* magazine deeply.
5. Post-test is given by the researcher to both students group as evaluation and assessment for their vocabulary mastery.

Additionally, the treatment of this research for the experimental group (XI MIPA 5) was done in four meetings. The first meeting, the researcher gives pre-test to the students and for the next, the researcher teaches with *Study in USA* magazine, the students were asked to understand and memorize vocabulary. The researcher gave 90 minutes as time in one meeting.

### **3.3.2 Teaching of Control Group**

The teaching for the control group (XI IPS 1) is not similar with the experimental group (XI MIPA 5). The researcher gives the teaching for XI IPS 1 as control group uses the another online source, the students are also given 50 words from the another online source by researcher, but in the control group, the students are not using *Study in USA* magazine.

The teaching process in this research is described as below:

1. The researcher introduces and explains a new material about vocabulary.
2. The researcher gives pre-test to the students.
3. The researcher explains kinds of text about poem in English Literature to students, the researcher explains 50 words from the another online source, for instance, English First, Poetry Archive, and Poetry Foundation by students to arrange the sentence.
4. The researcher explains and teaches the meaning of vocabulary about 50 words. Next, the students are asked to understand the meaning of 50 words through the another online source (English First, Poetry Archive, and Poetry Foundation) deeply.

5. Post-test is given by the researcher to both students group as evaluation and assessment for their vocabulary mastery.

### **3.4 Data Collection and Research Instrument**

Sugiyono (2010) states that data collecting technique was done in many settings, many sources, and many techniques. The source data was divided by primary source and secondary source, while of the technique, the researcher can uses interview, questionnaire, and observation. Then, an instrument is important for collecting the data in research. The researcher uses primary source instrument to knowing about the student's vocabulary mastery as information in this study.

Ary et.al (2010) explain that in educational research there are valuable measuring tools (instrument) are called by tests. The test is doing to know student's score, the score is measurement of student's understanding and the score is student's assessment as the learning evaluation. Then, the researcher uses the objective item test or multiple choice test as instrument of research, the test is one of evaluation tools for knowing and measuring knowledge proficiency of the students.

The instrument of research is designed by three question sources. First, the item test is taken by the Book of English Tutoring Test. Second, the instrument is adapted by English printed book for 11<sup>th</sup> grade. Last, the instrument is made by researcher through the Book of Guidelines for Designing Questions Test. The validity of instrument applies the face validity. The explanation of face validity is

the researcher consults research instrument to the expert. In this context, advisor is referenced as the expert.

The researcher uses 50 words of vocabulary from the *Study in USA* magazine which describes about university, college life, and education in America as material test in pre-test and post-test. Students implement pre-test for knowing student's first ability about vocabulary. In spite of, the researcher gives post-test after the treatment was given to students using *Study in USA* magazine.

### **3.5 Procedure of Data Collection**

The researcher obtains the data of the research based on student's scores in pre-test and post-test. From the data of the research, the researcher knows the effect of *Study in USA* magazine toward student's vocabulary mastery promoting in MAN 1 Kota Malang. Next, the researcher compares the score from pre-test and post-test.

The researcher collects the research data, the procedures are explained as below:

#### **1. Pre-test**

The Pre-test process is given by the researcher to students in both control and experimental group. The result of student's pre-test for both of the group are analyzed by the researcher for understanding of the differences. The researcher gives tests to all of students experimental and control group individually in the class. The student's score of pre-test is calculated by the researcher as analysis material from experimental and control group.

## 2. Treatment

In the next step, the researcher makes the treatment after pre-test has been finished. In the experimental group (XI MIPA 5 Class) uses *Study in USA* magazine about 50 word of education life in U.S, they are taught by understanding and memorize teaching method. On the other hand, control group (XI IPS 1 Class) does not use treatment, but they only adopt 50 words from the another online source. The description from the treatment of the experimental group (XI MIPA 5 Class) is:

- (1) The researcher greets to the student as meeting opening and checks the student's attendance list.
- (2) The researcher teaches about description and comparison of education life in America and Indonesia.
- (3) The students are asked by the researcher about education life in both of country.
- (4) The students are understanding researcher's explanation of education life.
- (5) The researcher shares several parts of *Study in USA* magazine which explains about 50 words is related by education life.
- (6) The researcher explains about 50 words with its meaning, students are asked to understand and memorize.



- (7) The researcher asks volunteer from the student to explain the meaning's word in front of class.
- (8) The researcher gives correction whether the student's explanation has mistake or not.

### **3. Post-test**

The post-test is the final step after the treatment is done, the researcher gives the post-test to the students in experimental and control group. The post-test purposes for knowing the *Study in USA* magazine's effect to promote the student's vocabulary mastery at XI grades of MAN 1 Kota Malang.

#### **3.6 Data Analysis**

According to Sugiyono (2010), data analysis in quantitative research is the activity after all of source data has been collected, the researcher makes a grouping data, tabulating data, and calculating on data. Then, in this research, the researcher uses SPSS 21 version to analyze the data. The procedures of data analysis are as below:

1. Pre-test and post-test scores of two groups are arranged by the researcher in the statistical table.
2. The data are gained by the researcher based on the post-test result minus by the pre-test result.
3. The researcher tests the hypothesis, compares and investigates the data between both of groups.

4. The researcher uses Independent Sample t-test for understanding and making a conclusion of the result between experimental and control group, if the data have normal and homogeneous distribution. On other hand, if the data have not normal and homogeneous distribution, it using statistical non parametric test which was Independent Sampled Mann Whitney U Test. Testing of Homogeneity uses Kolmogorov-Smirnov Test. The process of data analysis uses Application Statistical Software Computer SPSS 21 version.

